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ABSTRACT

This booklet is intended to help mainstreamed mentally retarded, emotionally disturbed, or learning disabled high school students acquire a basic understanding of the responsibilities and working conditions of taxi drivers and to practice basic math skills necessary in the occupation. The first section provides a brief introduction to the occupation by focusing upon those job tasks of a taxi driver with which the student is likely to be familiar. The next two sections deal with the work environment of the typical taxi driver and the training, education, and experience needed for the occupation. Exercises addressing basic math skills used by taxi drivers are provided. Various suggestions are listed for students interested in further exploring the occupation of taxi driver. A glossary and answer sheet conclude the booklet. (KC)

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# MATH on the job

## Taxi Driver

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MATH ON THE JOB:

TAXI DRIVER

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# MATH on the job

## Taxi Driver

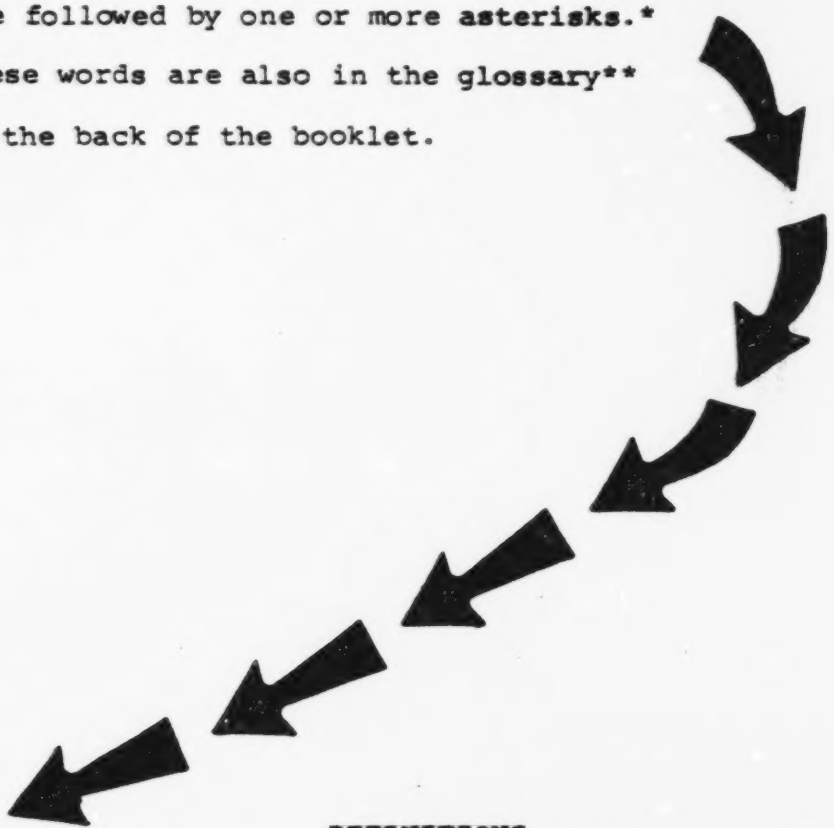
In this booklet, you can--

- find out what a taxi driver does
- see how a taxi driver uses math
- get a chance to use math as a taxi driver
- find out the type of things a taxi driver needs to know
- find out what courses, training, and experience you need to become a taxi driver

## SPECIAL WORDS USED IN THIS BOOKLET

Workers in many jobs use special words or special meanings for words. Learning these words helps you to learn about a job.

You will find some of these special words in this booklet. When these words, and some hard words, are used for the first time, they are followed by one or more **asterisks.*** These words are also in the **glossary**** at the back of the booklet.



### DEFINITIONS

*An asterisk (*) is a symbol that tells you to look at the bottom of the page for the meaning, or definition, of the word.

**A glossary is a list of words with their meanings.

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**HAVE YOU EVER...**

- been a passenger in a taxicab?
- watched a taxi driver carry luggage for a passenger?
- looked for a house number while riding in a car?
- read a street map to find out how to get to another location?
- watched drivers handling their cars in heavy traffic?

If you have, then you have some idea about the work of a taxi driver. In this booklet, you will learn more about the work of a taxi driver and how math is important to do the job.

## WHAT DOES A TAXI DRIVER DO?

The main task of a taxi driver is to transport passengers for a fee. A taxi driver also--

- drives passengers to different **destinations***
- **maneuvers**** a taxicab in different kinds of traffic and into various parking spots
- receives radio calls to pick up passengers
- loads and unloads packages or luggage for passengers
- accepts payment from passengers
- gives change to passengers
- keeps records of the destinations
- records the time of leaving a location and arriving at another location
- makes certain the taxicab is in good operating condition

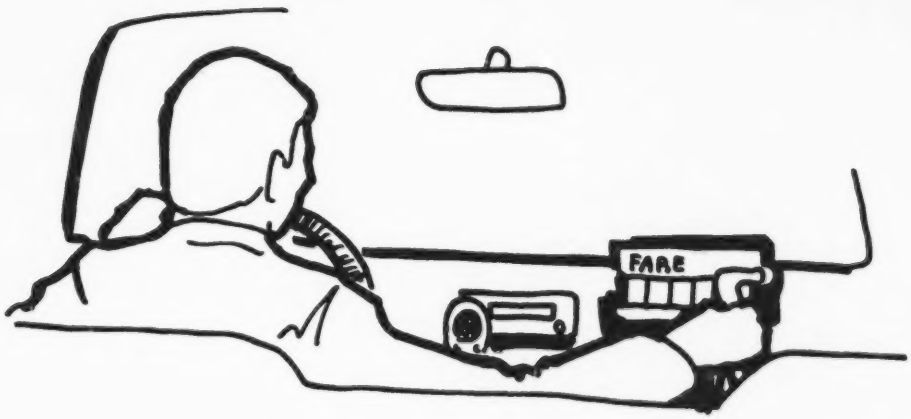
### DEFINITIONS

*Destinations are the locations or places where passengers want to be taken.

**To maneuver is to handle or move skillfully.

A taxi driver uses math on the job every day. As a taxi driver, you will--

- add, subtract, multiply, and divide
- estimate time and distance
- read street maps
- read house and building numbers
- figure and count change
- tell time
- record information about the trip on a log sheet*




DEFINITION

*A log sheet is a record of when and where passengers were driven and the amount the passengers paid.

A taxi driver uses math to keep track of hours worked.

**EXAMPLE**

Some taxi drivers are paid by the hour. Because the hours vary from day to day, a taxi driver must keep track of the hours worked. At the end of the week, the taxi driver must total the number of hours worked during that week.

Let's assume a taxi driver kept track of the hours worked each day for one week. The driver's work schedule looked like this:

| M | T | W | Th | F | S | S |
|---|---|---|---|---|---|---|
| 9 | 10 | 8 | 9 | 10 | 6 | 4 |

How many hours did the taxi driver work that week? To find the amount, add the number of hours worked each day.

$$9 + 10 + 8 + 9 + 10 + 6 + 4 = 56$$

The taxi driver worked a total of 56 hours.

NOW YOU TRY IT

**Practice Exercise A**

Find the total hours worked during each week.

1.

| M | T | W | Th | F | S | S |
|---|---|---|---|---|---|---|
| 10 | 9 | 9 | 10 | 11 | 4 | 3 |

2.

| M | T | W | Th | F | S | S |
|---|---|---|---|---|---|---|
| 8 | 7 | 7 | 8 | 8 | 5 | 0 |

3.

| M | T | W | Th | F | S | S |
|---|---|---|---|---|---|---|
| 5 | 6 | 5 | 4 | 6 | 0 | 3 |

4.

| M | T | W | Th | F | S | S |
|---|---|---|---|---|---|---|
| 11 | 12 | 0 | 11 | 10 | 8 | 7 |

5.

| M | T | W | Th | F | S | S |
|---|---|---|---|---|---|---|
| 7 | 6 | 7 | 8 | 7 | 6 | 0 |

6.

| M | T | W | Th | F | S | S |
|---|---|---|---|---|---|---|
| 0 | 8 | 8 | 8 | 8 | 8 | 8 |

A taxi driver uses math to count change.

**EXAMPLE**

A taxi driver receives payment, or fares, from passengers. How does a taxi driver know how much to charge a passenger? A taxi driver has an instrument in the taxicab called a taximeter. The taxmimeter measures the time and distance traveled, and shows the fare that a customer owes.

Let's assume that a taxi driver has a taximeter reading of $21.90. The passenger gives the taxi driver one ten-dollar bill and one twenty-dollar bill. How much change should the taxi driver give the passenger?

To find the amount, subtract the taximeter reading from the payment received. In this example, subtract $21.90 from $30.00.

$$\$30.00 - 21.90 = \$9.10$$

The taxi driver owes the passenger $9.10 in change.

NOW YOU TRY IT

**Practice Exercise B**

Find the amount of change that is owed to each passenger.

| | Taximeter Reading | Payment Received | Amount of Change |
|---|---|---|---|
| 7. | $10.95 | one twenty-dollar bill | ? |
| 8. | $15.72 | two ten-dollar bills | ? |
| 9. | $30.67 | one ten-dollar bill, one twenty-dollar bill, and three quarters | ? |
| 10. | $42.23 | two twenty-dollar bills, two one-dollar bills, and one quarter | ? |
| 11. | $68.03 | six ten-dollar bills, one five-dollar bill, and four one-dollar bills | ? |

A taxi driver uses math to figure out tips.

**EXAMPLE**

Tipping is a common practice across the United States. A tip is usually a certain percentage of a bill or a fare. A passenger may give a tip to a taxi driver. The size of the tip may vary depending on where a taxi driver works.

Let's suppose a taxi driver drove a passenger to the airport. The fare for the ride is $11.75. The passenger gives the taxi driver $13.00 and wants no change. What percent of the fare did the passenger tip? Round your answer to the nearest whole percent.

To find this amount, subtract the amount of the fare from the total. Then divide the difference by the amount of the fare.

$13.00 - 11.75 = $1.25 tip

1.25 ÷ 11.75 = 11%

The tip was 11% of the fare.

NOW YOU TRY IT

**Practice Exercise C**

What percent did the passenger tip on each of the following fares?

| | Fare | Amount Received | % of Fare (Tip) |
|---|---|---|---|
| 12. | $ 3.25 | $ 4.00 | ? |
| 13. | $ 6.40 | $ 8.00 | ? |
| 14. | $ 8.30 | $10.00 | ? |
| 15. | $12.55 | $15.00 | ? |
| 16. | $ 4.45 | $ 5.00 | ? |
| 17. | $ 6.70 | $ 7.00 | ? |
| 18. | $ 9.25 | $10.00 | ? |
| 19. | $12.75 | $20.00 | ? |
| 20. | $ 5.30 | $ 6.00 | ? |
| 21. | $ 6.80 | $ 7.50 | ? |
| 22. | $ 8.75 | $10.00 | ? |
| 23. | $11.50 | $13.00 | ? |

A taxi driver uses math to keep a log book.

**EXAMPLE**

A taxi driver uses a log book to record--

- the departure time
- the point of departure
- the destination
- the arrival time
- the fare

A taxi driver does this for each passenger. The following is part of a sample log sheet from a log book. In this example, the taxi cab company is called the Friendly Taxi Service.

**FRIENDLY TAXI SERVICE LOG SHEET**

Date_____

Driver_____

| Departure Date/Time | Place of Departure | Destination | Arrival Time | Fare |
|---|---|---|---|---|
| 9:00 a.m. | the airport | the Grand Hotel | 9:30 a.m. | $14.95 |
| | | | | |

How long did it take the taxi driver to drive from the airport to the hotel?

First, find the departure and arrival times on the log sheet. In this example, the departure time is 9:00 a.m. The arrival time is 9:30 a.m. There is a half hour difference between the departure and arrival time.

The taxi driver took a half hour to drive from the airport to the hotel.

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NOW YOU TRY IT

## Practice Exercise D

Use the sample log sheet below to answer questions 24-28.

**FRIENDLY TAXI SERVICE LOG SHEET**

Date_____

Driver_____

| Departure Date/Time | Place of Departure | Destination | Arrival Time | Fare |
|---|---|---|---|---|
| 8:50 a.m. | airport | Grand Hotel | 9:40 a.m. | $16.70 |
| 9:40 a.m. | Grand Hotel | Exposition Center | 10:05 a.m. | $8.75 |
| 10:15 a.m. | 210 W. State Street | 1435 Central Avenue | 10:43 a.m. | $14.89 |

24. How long did it take the taxi driver to drive from the airport to the Grand Hotel?

25. How much did it cost the passenger to travel from the airport to the Grand Hotel?

26. How long did it take the taxi driver to drive from the Grand Hotel to the Exposition Center?

27. How long did it take the taxi driver to drive from 210 W. State Street to 1435 Central Avenue?

28. How much did it cost the passenger to travel from 210 W. State Street to 1435 Central Avenue?

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## WHERE DOES A TAXI DRIVER WORK?

As a taxi driver, you spend your working time in a cab. The cab you drive may be your own or belong to someone else. You may--

- rent the cab
- drive a cab owned by a company
- own your own cab

If you rent the cab, you will keep all the money you take in during the day after you subtract the rental cost. If you drive for a company, you probably will be given about 40% to 50% of the money taken in.

Tips are an important part of the money you will earn. Tips usually equal about 15% to 20% of the total amount you take in.

You may find your passengers (who are called fares) in several ways, such as, by--

- receiving a call on a two-way radio from a dispatcher*
- picking up passengers at a cab stand
- parking in front of busy buildings, such as hotels, bus stations, and airport terminals
- driving around the city until someone signals for you to stop

**DEFINITION**

*A dispatcher receives a request for service from the customer. The dispatcher then calls the closest available driver on the radio to tell the driver where to pick up the customer.

As a taxi driver, you probably will work 9 to 10 hours a day, up to 6 days a week. Sometimes, you will drive in very heavy traffic and in bad weather. You must be able to drive well and safely so that you can get your passengers to their destinations as quickly as possible.

Your main contact with people will be with your passengers. You always should be friendly and nice to your passengers. Sometimes, your passengers will be from out of town. You should be able to answer their questions about things to do and see in your city.

Sometimes, your passengers may be sick or elderly. They may need special help getting in and out of the cab or carrying packages. Late at night, you should make sure all your passengers get to their doors safely. Your passengers will appreciate this good service and might give you nice tips.

Your taxicab probably will be equipped with a taximeter. The taximeter computes the amount of money the passenger owes. It does this by measuring both the amount of time and distance you have traveled.

The taximeter is located near the driver in the front of the cab. When the passenger gets into the cab, you flip a switch on the taximeter to start the meter. The passenger can see the meter while you are driving and knows at all times how much the ride is costing.

IF YOU ARE INTERESTED IN

THE WORK OF A TAXI DRIVER

AND WOULD LIKE TO KNOW MORE,

READ ON

## WHAT TRAINING, EDUCATION, AND EXPERIENCE DO YOU NEED TO BECOME A TAXI DRIVER?

What do you think? Would you like to be a taxi driver? If you would, there are some things you should know.

To get a job as a taxi driver, you should know--

- how to drive safely
- how to talk easily with other people
- the names of streets and where they are located
- how to find passengers' destinations quickly
- how to read street maps
- how to read street signs and numbers on buildings while you drive
- all the traffic laws
- insurance requirements

You should be in good health, have a good driving record, and not have a criminal record. You probably will have to get a **chauffeur's license***. You also may have to get a special taxicab operator's license. To get these licenses, you may have to take special written tests.

**DEFINITION**

*A chauffeur's license is a special driving permit for people who are paid to drive vehicles.

Most taxi drivers are trained on the job. While in high school, you should take courses in driver training and business mathematics.

The best way to get a job as a taxi driver is to apply for a position at a taxicab company. If you have enough money, you could buy your own cab. Most cities require cab operators to have a permit to operate. These permits can cost thousands of dollars in addition to the cost of the cab.

## DO YOU WANT TO DO MORE TAXI DRIVER'S MATH?

### Practice Exercise E

Find the total number of hours worked for each work schedule shown below.

29.

| M | T | W | Th | F | S | S |
|---|---|---|---|---|---|---|
| 5 | 7 | 6 | 4 | 2 | 3 | 1 |

30.

| M | T | W | Th | F | S | S |
|---|---|---|---|---|---|---|
| 11 | 7 | 9 | 12 | 7 | 6 | 5 |

31.

| M | T | W | Th | F | S | S |
|---|---|---|---|---|---|---|
| 0 | 9 | 10 | 9 | 9 | 10 | 0 |

32.

| M | T | W | Th | F | S | S |
|---|---|---|---|---|---|---|
| 8 | 9 | 0 | 10 | 10 | 6 | 6 |

33.

| M | T | W | Th | F | S | S |
|---|---|---|---|---|---|---|
| 7 | 7 | 7 | 8 | 9 | 7 | 0 |

34.

| M | T | W | Th | F | S | S |
|---|---|---|---|---|---|---|
| 5 | 6 | 9 | 9 | 8 | 7 | 0 |

### Practice Exercise F

Find the amount of change that is owed to each passenger.

| | Taximeter Reading | Payment Received | Amount Of Change |
|---|---|---|---|
| 35. | $36.05 | one twenty-dollar bill, three five-dollar bills, one one-dollar bill, and five pennies | ? |
| 36. | $39.03 | two twenty-dollar bills, and one nickel | ? |
| 37. | $11.71 | one twenty-dollar bill, two quarters, two dimes, and one nickel | ? |
| 38. | $13.99 | two five-dollar bills, two one-dollar bills, five quarters, and eight dimes | ? |
| 39. | $23.55 | three ten-dollar bills, one quarter, one dime, three nickels, and five pennies | ? |

## Practice Exercise G

What percent did the passenger tip on each of the following fares?

| | Fare | Amount received | % of Fare (Tip) |
|---|---|---|---|
| 40. | $14.80 | $15.00 | ? |
| 41. | $16.75 | $17.25 | ? |
| 42. | $21.90 | $25.00 | ? |
| 43. | $18.95 | $20.00 | ? |
| 44. | $23.40 | $25.00 | ? |
| 45. | $25.00 | $25.00 | ? |
| 46. | $14.40 | $15.00 | ? |
| 47. | $16.80 | $20.00 | ? |
| 48. | $23.20 | $25.00 | ? |

## Practice Exercise H

Use the sample log sheet below to answer questions 49-53.

| Departure Date/Time | Place of Departure | Destination | Arrival Time | Fare |
|---|---|---|---|---|
| 10:45 a.m | 1370 Lakeview Avenue | 4316 Merrywood Lane | 11:20 a.m. | $12.75 |
| 11:40 a.m. | 2610 Cherry Street | airport | 12:15 p.m. | $18.40 |
| 12:27 p.m. | airport | 2615 W. Orange Street | 1:11 p.m. | $16.85 |

49. How long did it take the taxi driver to drive from 1370 Lakeview Avenue to 4316 Merrywood Lane?

50. How much did it cost the passenger to travel from 1370 Lakeview Avenue to 4316 Merrywood Lane?

51. How much did it cost the passenger to travel from 2610 Cherry Street to the airport?

52. How long did it take the taxi driver to drive from the airport to 2615 W. Orange Street?

53. How much did it cost the customer to travel from the airport to 2615 W. Orange Street?


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## DO YOU WANT TO EXPLORE SOME MORE?

1. Go to an airport, hotel, or other place where taxi drivers pick up and let out passengers often. Watch how the drivers do their jobs. What do you like about the service that the passengers are given? What do you dislike about the service? Write down some of the things you think should be done to provide excellent service to customers.

2. Ask family members, friends, and neighbors what kinds of service they expect from taxi drivers.

3. Take a ride in a taxicab. What did the driver do that you liked or did not like?

4. Contact a local taxi company. Find out what the requirements are for becoming a taxi driver. Do you think that you could meet the requirements?

5. Are you interested in other jobs in the transportation industry?

   - **Long distance truck drivers** drive large trucks. They haul goods and materials over long distances.
   - **Local truck drivers** drive vans and small trucks. They usually deliver goods and materials within a city.
   - **Long distance bus drivers** drive large passenger buses from one city to another.
   - **Local bus drivers** drive passenger buses within a city from one place to another.
   - **Chauffeurs** drive people in limousines and vans from one place to another.

   You must have good math skills to do these jobs well. Most of these workers use addition, subtraction, multiplication, and division in their work every day.

## GLOSSARY

**Asterisk (*):** a mark that tells you to look at the bottom of the page for the meaning, or definition, of a word.

**Chauffeur's license:** a special driving permit for people who are paid to drive vehicles.

**Destinations:** locations or places where passengers want to be taken.

**Dispatcher:** a person who receives a request for service from the customer. The dispatcher then calls the closest available driver on the radio to tell the driver where to pick up the customer.

**Glossary:** a list of words with their meanings.

**Log sheet:** a record of when and where passengers were driven and the amount the passengers paid.

**Maneuver:** to handle or move skillfully.

## ANSWER SHEET

### Practice Exercise A

1. 56
2. 43
3. 29
4. 59
5. 41
6 48

### Practice Exercise B

7. $9.05
8. $4.28
9. $0.08
10. $0.02
11. $0.97

### Practice Exercise C

12. 23%
13. 25%
14. 21%
15. 20%
16. 12%
17. 5%
18. 8%
19. 57%
20. 13%
21. 10%
22. 14%
23. 13%

### Practice Exercise D

24. 50 minutes
25. $16.70
26. 25 minutes
27. 28 minutes
28. $14.89

### Practice Exercise E

29. 28
30. 57
31. 47
32. 49
33. 45
34. 44

### Practice Exercise F

35. $0.00
36. $1.02
37. $9.04
38. $0.06
39. $7.00

### Practice Exercise G

40. 1%
41. 3%
42. 14%
43. 6%
44. 7%
45. 0%
46. 4%
47. 16%
48. 8%

### Practice Exercise H

49. 35 minutes
50. $12.75
51. $18.40
52. 44 minutes
53. $16.83